



CDF Operations

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February 28, 2005

All Experimenters' Meeting



Store Summary (02/21–02/28)

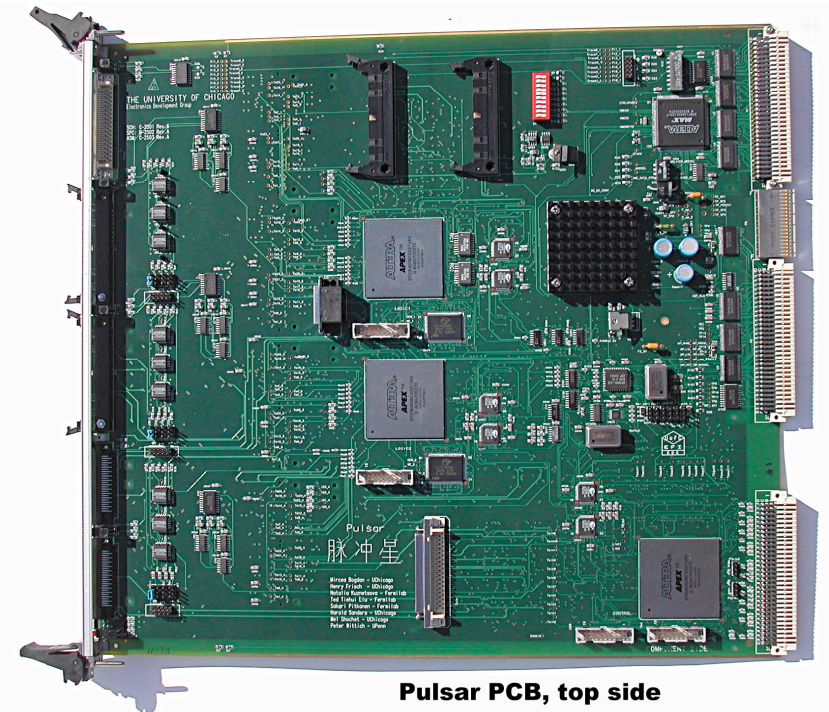
Store	Start Date	Duration (hours)	Uptime (hours)	Initial Instantaneous Luminosity ($10^{30} \text{ cm}^{-2}\text{s}^{-1}$)	Delivered Integrated Luminosity (nb^{-1})	Live Integrated Luminosity (nb^{-1})	Notes
3997	02/21	16.0	11.7 72.7%	61.0	1799.7	1128.6 62.7%	Large beam losses 12 hours into store for 1.5 hours–RF?
4000	02/22	29.4	26.7 90.8%	82.3	3342.5	2778.7 83.1%	
4002	02/23	24.8	21.1 85.1%	118.0	4240.0	3226.9 76.1%	Record initial luminosity; first power cycle of COT crate
4004	02/25	28.3	24.9 87.9%	90.1	3701.7	2992.6 80.8%	
4006	02/26	28.6	25.6 89.3%	95.9	4023.3	3196.1 79.4%	
4007	02/27	2.2	0.8 38.6%	102.6	655.2	176.7 27.0%	Quench; many startup problems—HV, DAQ, tests
Total 3997–4007	02/21– 02/28	129.5	110.8 85.6%		17862.4	13449.6 75.6%	Would like efficiency $\geq 90\%$; startup and tests are issues



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➤ Pulsar tests

- Generalized FPGA-based VME board design with user-specific mezzanine cards
- Main use in CDF: upgrade to L2 and SVT trigger systems
- Aggressive schedule in progress to be ready for higher luminosities
- Consequence: many tests necessary to test trigger system
- Previously, testing at low luminosity, but starting this week need (and have done some) high luminosity ($>100 \times 10^{30}$) studies
- Comparisons between Pulsar system and old Alpha-based system result in many new runs; startup time for runs add up



Pulsar PCB, top side

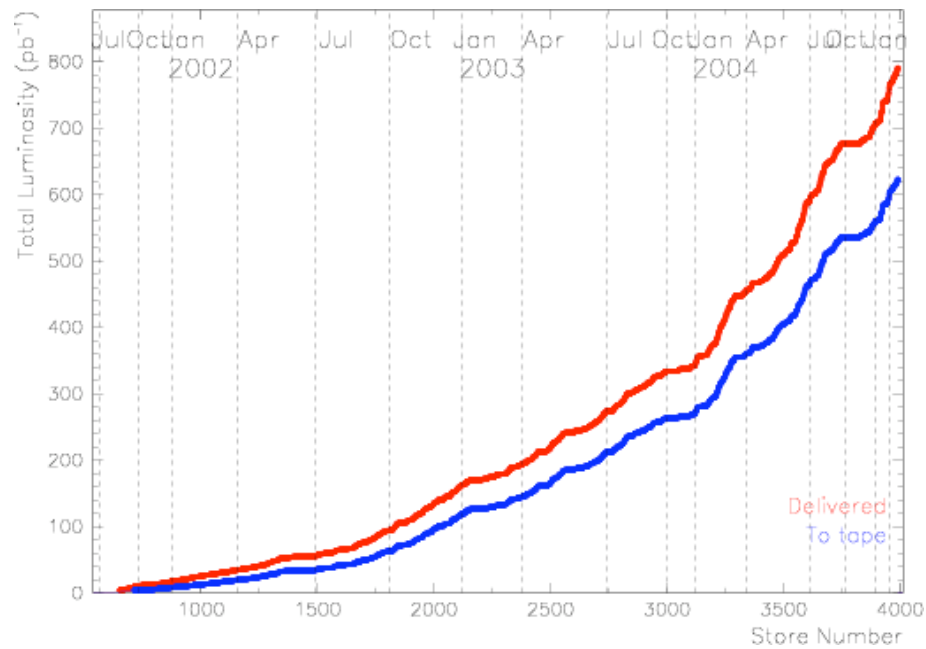


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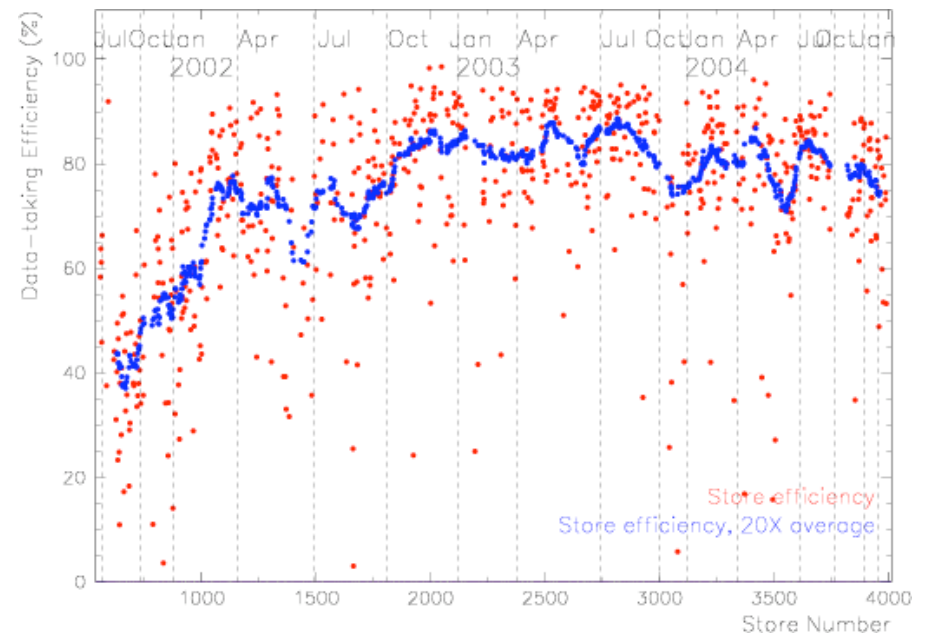
- Silicon following recommendations of lifetime committee lowering silicon chilled water from -6°C . to first -8°C . and then -10°C . This results in sustaining higher S/N. This week took first step to -8°C . Doing more beam-on calibrations than normal and keeping silicon under closer scrutiny.
- Annoying startup problem: COT crate produces data errors which result in event builder errors, and eventually require DAQ cleanup. Power cycling COT crate fixes problem, but this has been needed last 4 stores. Probably need 2 hour access to investigate at crate; DAQ investigations in progress.
- Usual list of other assorted problems:
 - Central shower max card replaced; so far, fixed repeated crate problems
 - Silicon and plug power supplies (CAEN SY527s) need reboot (beam loss?)
 - CMX chamber trips (beam loss?)
 - Also, continued tests for improved trigger tables
 - COT power supply replaced
 - Problem last night with slow control (HV) system



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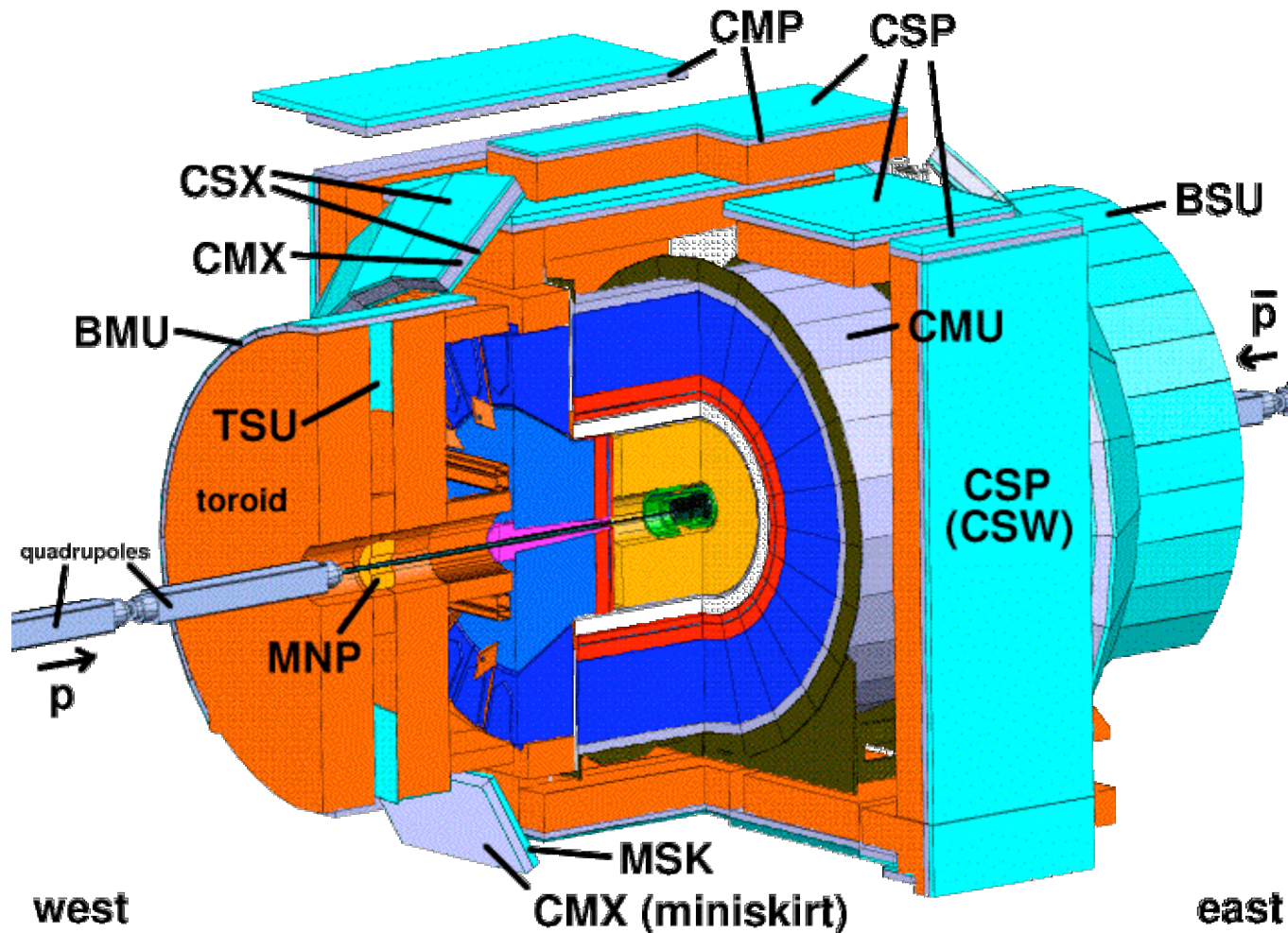
Run 2 Integrated Luminosity



Run 2 Efficiency by Run



CDF Run IIB Detector





CDF Run IIB Detector (inner)

